

Optically Immersed 7.0 μm LED in heatsink
optimized housing

Photoluminescent
LED70Sr

TE cooled Optically Immersed 7.0 μm LED

LED70T08TEC

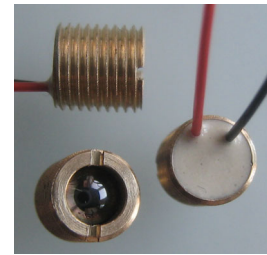
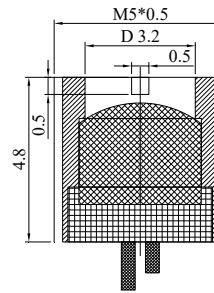
Peak wavelength	μm	7.0 ± 0.2 @22 °C	
Pulse power	μW	Drive current 1 A, 0.02 duty cycle	$3 \div 3.5$
Quasi-CW power	μW	Drive current 0.15 A, 0.5 duty cycle	$0.5 \div 0.6$
CW power	μW	Drive current 0.1 A	$0.3 \div 0.4$
Cut-off frequency	MHz	50 ¹	

Code	Emission size, mm	Weight, g	Optical components	Far-field pattern FWHM, deg.	Optical axis deviation, deg.	Optical power deviation in lot, %	Operation conditions, °C	Lifetime, hrs
LED70Sr/Cy	$\varnothing 3.2$	~0.4	Ge lens	~15	≤ 5	± 25	$-60 \div +60$	>100 000
LED70T08TEC		~10	Ge lens and output CaF ₂ window D=6mm					

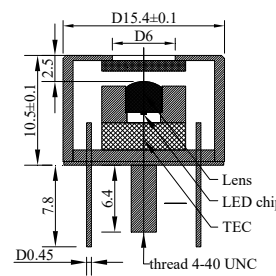
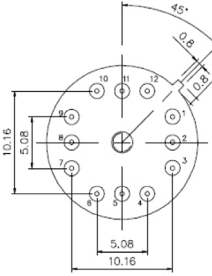
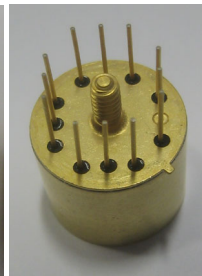
Product view

(We note that 2 room temp devices produce more power than 1 TE-Cooled device at lower cost)

LED70Sr



Pin assignment: red wire or long wire and red point on house - positive



Pin assignment
LED70T08TEC12

- 1 TEC negative;
- 3 TEC positive;
- 4 LED negative;
- 6 LED -positive;
- 7, 9 thermosensor;
- 11 $\perp$ (House)

Features

- Optical coupling through the use of chalcogenide glasses and Ge lenses with antireflection coating

- 3-fold increased LED output power;
- Beam collimation;
- Small on-off time (tenths of ns);
- Low power consumption (≤ 0.1 W)

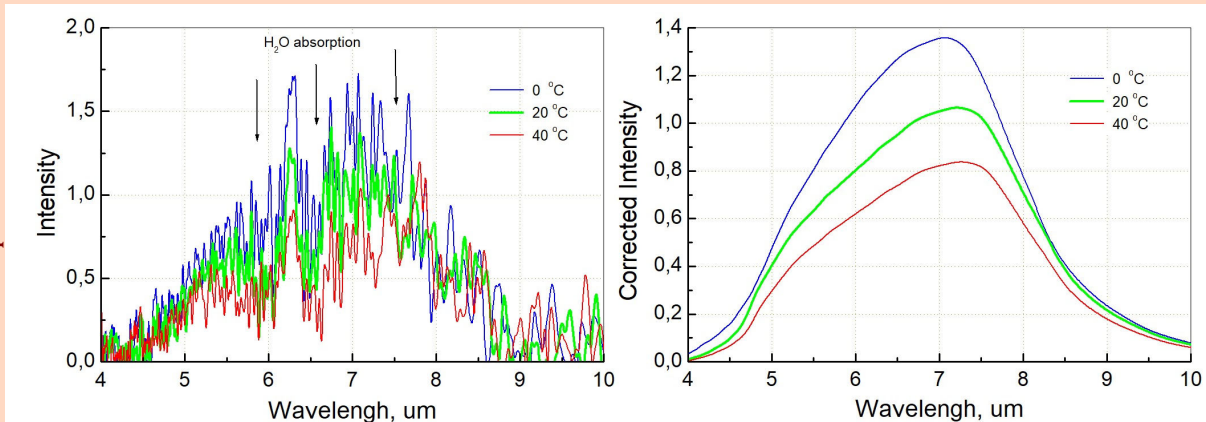
Emission beam divergence is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices. We recommend if possible using low duty cycle mode of operation with $I < 0.5 \times I_{\text{max}}$ so that higher efficiency and long term stability of a LED are achieved. Data are valid for LED **attached to a heatsink** and thermostabilized at 22°C. **Heatsink is essential for TEC operation!**

Notes

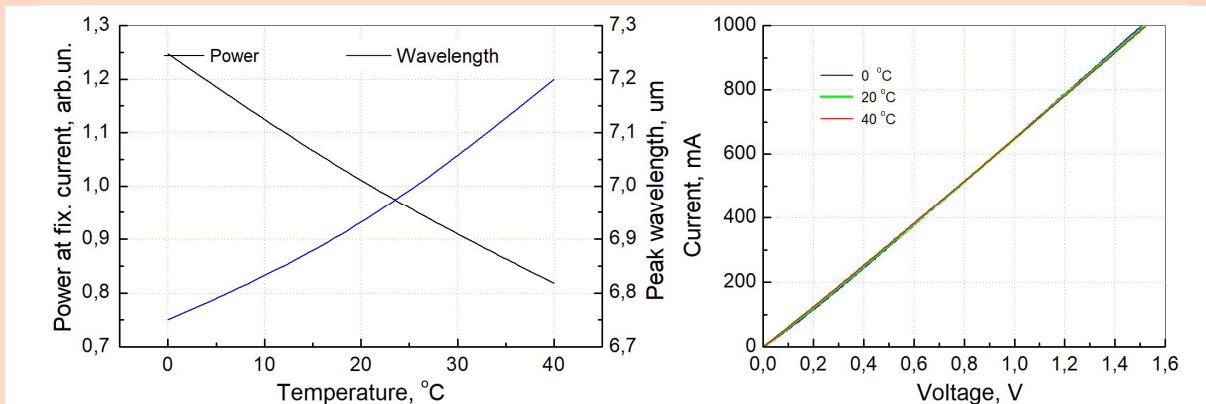
- ¹ - according to estimation
- ² - Customized headers and caps can be fabricated

Product specifications are subject to change without prior notice due to improvements or other reasons. Updated 29.06.20

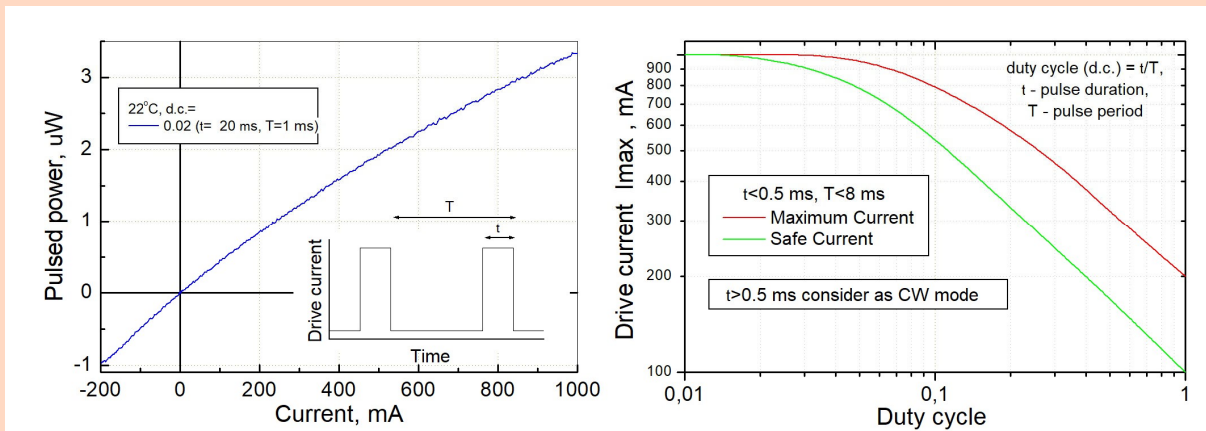
Measured and Corrected for
H₂O absorption emission
spectra



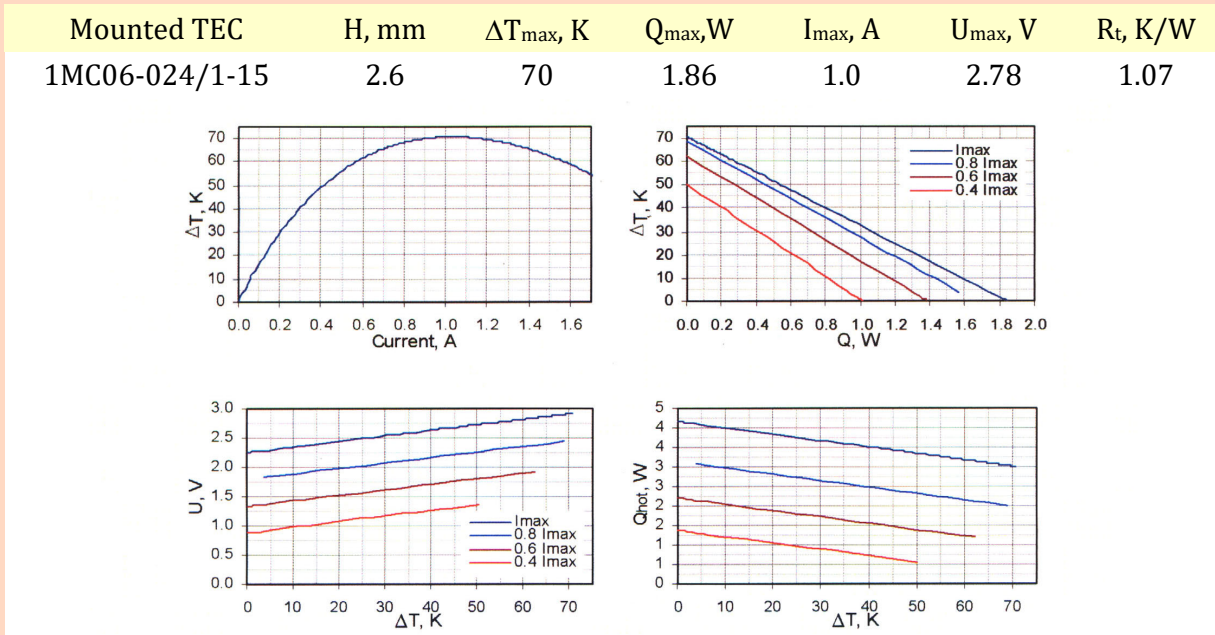
Power and peak wavelength
vs. temperature; I - V curve



Output power and drive current
vs operation conditions

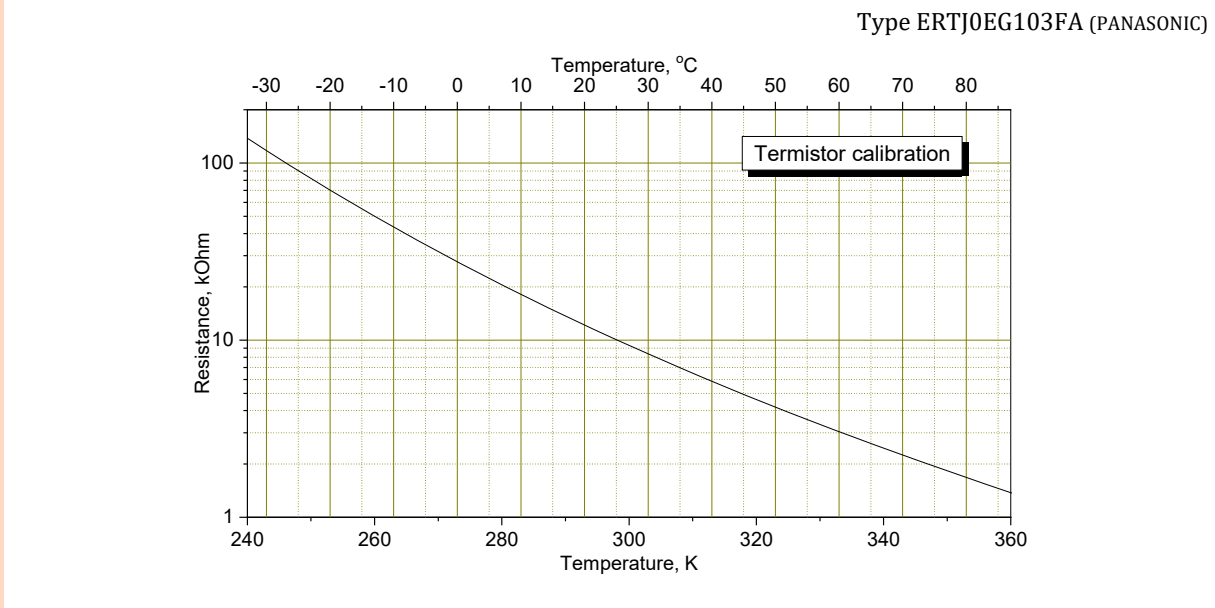


Thermoelectric cooling module datasheet



Data for $T_{\text{hot}}=300$ K, from www.tec-microsystems.com; www.rmtltd.ru

Thermistor specification



Possible TEC heatsink view

